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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/101,508	09/30/1998	JEAN-LOUIS BOYER	100983	9727

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CHAMBERS, TROY

ART UNIT	PAPER NUMBER
3641	

DATE MAILED: 06/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	09/101,508	Applicant(s)	BOYER ET AL.
Examiner	Troy Chambers	Art Unit	3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 23 May 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 14-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 14-31 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). _____ .
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . 6) Other: _____

DETAILED ACTION

Claim Objections

1. Claims 30 and 31 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Applicant added the specific subject matter of claims 30 and 31 into claims 14 and 16, respectively, without canceling said claims 30 and 31.

Specification

1. The substitute specification filed April 02, 2001 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material that is not supported by the original disclosure is as follows: the specification contains numerous instances of new matter, all of which will not be repeated. For example: pg. 2, lines 7, 9 and 10 (and other places in the spec.) recite the term "current" in place of "intensity" disclosed in the original application; pg. 2, ll. 17, the "comma" was removed resulting in an element not supported by the disclosure; the specification contains numerous references to the terms "include", "may include" or "including" in place of "constituted" "can be constituted by" (This is new matter because the word "including" suggests "the containment of something as a constituent, component, or subordinate part of a larger whole. So, a power supply which "may

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include" 2 batteries is much broader than a power supply "constituted by" 2 batteries" because the latter suggests a power supply that is "composed" of only batteries.)

Applicant is required to cancel the new matter in the reply to this Office Action.

2. The amendment filed 23 May 2003 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the addition of "timing" as requested in the Amendments to the Specification. A review of the specification reveals the means referred to in line 3 should be "programming means".

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 15 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, the specification fails to disclose a

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"power generating means" comprising a switching means, capacitor, and controlling means. Applicant states, specifically, that the "power generating means can be found at least on pg. 6, lines 1-5 of Applicant's specification." A review of the specification reveals that the generating means 35 is the power supply 10 and capacitor 36. Moreover, the specification makes clear on pg. 4, ll. 17-21 that it is the "timing means" that is constituted by the above mentioned elements.

6. Claim 16 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, the specification does not convey how an "electrical power supply means" times the action of the firing element of a primer. During the interview (May 28, 2003), the examiner pointed out to applicant's representative, Paul Daebler, that the applicant in the substitute specification removed the comma between "electrical power supply and means for timing". This created a single element whose claimed function is not supported by the specification.

7. Claim 14 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 14 recites "even as other components fail". However, the specification does not support the operation of the device upon the failure

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of "other components" but only the failure of the transistors and electromechanical means (pg. 5, ll. 17-21). During the interview with Mr. Daebler he indicated that if any of the circuit elements failed the device would work as claimed and the power supply would be insufficient to detonate the device. But what if the resistors failed?

8. Claims 14 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, claim 14 recites the phrase "resistive circuit", "charged capacitor", "timing interval" and "other components". It is never proper to introduce a new element of the claim in the middle of the clause describing another element, or to describe an operation or action upon or by a new element without its having first been introduced. This is "inferential claiming". Each new element in a product claim should be first introduced as either (a) the subject of its own clause, or (b) a previously introduced and named item or step. For example, "timing interval" should be set forth in a separate clause or made part of the timing means (e.g. timing means for establishing a timing interval for timing the action of a primer).

9. Claim 14 recites the limitation "the current intensity" in line 8. There is insufficient antecedent basis for this limitation in the claim.

10. Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, it is not clear how the power generating means comprises the recited elements when applicant's amendment and specification state otherwise.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. As applicant's claimed device can best be understood in view of the above objections/rejections, claims 14-20, 22, 23, 25, 26 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5014622 issued to Jullian. Jullian discloses a blasting cap (EBC1-3) and either a galvanometer 18 or blasting machine 20 for its detonation.

3. Jullian discloses a blasting cap having a first power supply to control and operate the control logic supply; a second power supply to detonate an igniter circuit; the first power supply being insufficient to detonate the device. (Col. 9, ll. 3-22) Each power supply is controlled by a chargeable capacitor (col. 9, ll. 3-5, ll. 23-40 and ll. 41-57) that also includes switching means including transistors and an integrated circuit (IC) for controlling the switching. Either one of the control logic supply or igniter power supply can be controlled by external means (e.g. by the blasting galvanometer having micro controller 52 or by the blasting machine having a CPU associated with the blasting machine. (Col. 10, ll. 17-20; also see description of remotes 18 and 20). Also disclosed is a plurality of resistors R1-R5, R13 and R14 for limiting current intensity. Additionally, Jullian discloses a circuit in which a power supply of 12 volts is used to power the logic

circuitry (12 volts decreased in conventional manner to 5 volts) and also used to power the blasting caps (12 volts increased in a conventional manner to 48 volts). Col. 5, II.

14-29.

4. Figures 2 and 4 disclose the components of the galvanometer 18 and the blasting machine 20. The galvanometer has power switch 22 and the blasting machine has a 12v battery power supply (not shown). Both have micro controllers, code wheels 24, 74 and also a display 26, 72 and programming switches 36, 38, 40, 42, 70, 80. Galvanometer 18 also includes information connectors 30, 32.

5. As applicant's claimed device can best be understood in view of the above objections/rejections, claims 16, 27, 28, 29 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Boucher. Boucher discloses an electronic safe/arm device comprising: low voltage power source 12; bleed resistor 168; a high voltage power source 14; a timer 212 responsive to an external trigger; arm-enable switch 122. Boucher discloses timer 212 is responsive to the operation of dynamic a dynamic switch control 128, "to measure a suitable time period." (Col. 6, II. 56-62). Previously, Boucher stated that a voltage of about 45-65 volts was necessary to charge the firing capacitor. This information, coupled with knowledge of the capacitors capacitance allows one to charge a capacitor "for a charging time" as determined by the output time of the timer.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jullian in view of U.S. Patent No. 5899553 issued to Howell. Jullian discloses a galvanometer and blasting machine having code wheel 24, 74. However, it is not disclosed that the code wheels are illuminated. Howell discloses a device for the illumination of keypads. At the time of the invention, one of ordinary skill in the art would have found it obvious to provide the code wheels of Jullian with the illumination device of Howell. The suggestion/motivation for doing so would have been to provide a means for illuminating a push-button keypad.

8. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jullian in view of Jarrot. Jullian discloses a safe/arm device as described above. However, Jullian does not disclose the use of phototransistors. Jarrott discloses such subject matter. Specifically, Jarrott discloses a programmable electronic delay fuse comprising: a power source 33; a programmable timer 2 including a first delay timer A and a second delay timer B; an optical interface unit 1 (phototransistors) for transmission of delay-related clock signals to an external programming unit; a control processor 31; a display 32; and a keyboard 30. At the time of the invention, one of ordinary skill in the art would have found it obvious to provide the device of Jullian with the subject matter of Jarrott. The suggestion/motivation would have been to convey information via light rather than through a cable.

Response to Arguments

9. Applicant's arguments filed 06 June 2003 have been fully considered but they are not persuasive. With respect to the rejection of the claims as anticipated by Jullian, applicant argues: "Jullian does not disclose an electronic circuit design using components, which can limit current intensity in case of power supply disturbances, hazardous phenomena (EMP-Neutrons-ESD), or countermeasures."

In response to the applicant's arguments the examiner points out the requirements of 37 C.F.R. 1.111 which provides, in part:

The reply by the applicant or patent owner must be reduced to a writing which distinctly and specifically points out the supposed errors in the examiner's action and must reply to every ground of objection and rejection in the prior Office action. The reply must present arguments pointing out the specific distinctions believed to render the claims, including any newly presented claims, patentable over any applied references.

Applicant alleges Jullian does not disclose certain "components" which limit current intensity for a variety of reasons. However, the applicant never specifies which "claimed" components provide those features applicant deems patentable. A review of the amendment/argument reveals only a verbatim regurgitation of the claim language. A proper response would include the identification of subject matter present in the claims and absent in the prior art reference cited by the examiner. Moreover, the applicant should provide support in the specification (e.g. page numbers, columns) for the alleged claimed patentable subject matter. Applicant has not done this so it is still unclear why it is believed the claimed subject matter is novel over Jullian.

With respect to the "even as other components fail" limitation in applicants claims, col. 5, ll. 14-19 make it clear that the 12 volt power supply is not capable of detonating

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the device unless it is properly increased to 48 volts. If "other components" (applicant does not specify which components must fail so any will be chosen) fail (e.g. the components used to increase the voltage from 12 volts to 48 volts) then the 12 volts will be insufficient to detonate the device.

With respect to the rejection of the claims as anticipated by Boucher, applicant argues: "...the transformer of Boucher, which serves as the high voltage power generating means, produces the high voltage power independently of the operation of the timer (212)." But, it is for this very reason the examiner informed the applicant of possible "inferential claiming" in the independent claims. Claim 16 only requires a "timing interval". There is no specific connection made between the "timing interval" and the "electrical power supply means for timing". Hence, any timing interval of Boucher (e.g. one chosen manually by the user) would anticipate applicant's claims.

Applicant further argues, "the timer [of Boucher] actually uses and depends on the generated high voltage power outputted by the transformer (14) to operate..." But, the applicant has misread the examiner's rejection. First, the alleged distinguishing and novel subject matter cited by the applicant is present in claim 14 ("an electrical power supply that provides a first power intensity to the timing means"). Second, claim 14 has not been rejected as anticipated by Boucher.

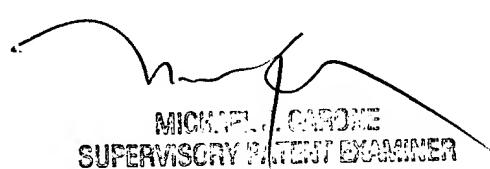
Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Troy Chambers whose telephone number is (703) 308-

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5870. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J. Carone, can be reached at (703) 306-4198.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-4177. The fax phone number for the organization where this application or proceeding is assigned is (703) 306-7687.



MICHAEL J. CARONE
SUPERVISORY PATENT EXAMINER